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FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216. PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax) PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

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Revised 01/29/2002





1652

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/424,686

DATE: 02/14/2002 TIME: 15:18:45

Input Set : A:\pto.vsk.txt

Output Set: N:\CRF3\02142002\1424686.raw Does Not Comply

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Corrected Diskette Needed
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              Siegmund, Hans-Ulrich
      6
              Weichel, Walter
             Wick, Maresa
              Zubov, Dmitry
     10 <120> TITLE OF INVENTION: Human Catalytic Telomerase Sub-Unit and its Diagnostic and
Therapeutic
    11
              Use
    13 <130> FILE REFERENCE: Bayer 10,203
    15 <140> CURRENT APPLICATION NUMBER: US 09/424,686
    17 <141> CURRENT FILING DATE: 1999-11-29
     19 <150> PRIOR APPLICATION NUMBER: PCT/EP98/03468
     21 <151> PRIOR FILING DATE: 1998-06-09
    23 <160> NUMBER OF SEQ ID NOS: 7
     25 <170> SOFTWARE: Microsoft Word
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ERRORED SEQUENCES

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176 <400> SEQUENCE: 2

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155

150

145

160

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Output Set: N:\CRF3\02142002\I424686.raw

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208	_			_	165					170	•				175	
210	G1	n Le	u Gly			Thr	Gln	Ala	_	Pro	Pro	Pro	His		Ser	Gly
211	_	_		180			_		185		_	_		190	•	
213	Pr	o Ar	g Arg	_	Leu	Gly	Cys		Arg	Ala	Trp	Asn		Ser	Val	Arg
214		_	195					200		_		_	205			
216	G1		a Gly	Val	Pro	Leu		Leu	Pro	Ala	Pro		Ala	Arg	Arg	Arg
217		21		_			215					220				
219		-	y Ser	Ala	Ser	_	Ser	Leu	Pro	Leu		Lys	Arg	Pro	Arg	_
220	22				_	230		_			235					240
222	G1	y Al	a Ala	Pro		Pro	Glu	Arg	Thr		Val	Gly	Gln	GLy		Trp
223				=	245					250					255	
225	Al	a Hi	s Pro	_	Arg	Thr	Arg	Gly		Ser	Asp	Arg	Gly		Cys	Val
226			_	260		_			265			_		270		
228	Va	1 Se	r Pro		Arg	Pro	Ala		Glu	Ala	Thr	Ser		Glu	Gly	Ala
229			275					280			_		285	_ =		•
231			r Gly	Thr	Arg	His		His	Pro	Ser	Val	_	Arg	Gln	His	His
232		29		D	0	mh	295	7	Desa	D	7	300	III	7	m	Desa
234			y Pro	Pro	ser		ser	Arg	Pro	Pro	_	PLO	тгр	ASP	Thr	
235	30		a Dwa	37 a 1	M	310	C1.,	mh∞	T ***	ni a	315	Lou	Пттъ	Com	Com	320
237	Су	S Pr	o Pro	val	-	Ald	GIU	TILL	гуѕ		Pne	Leu	туг	ser		GTÀ
238	7 0	n T.,	a Clu	C1 n	325	λνα	Dro	Con	Dho	330	Tou	Cor	Cor	Lou	335	Dro
240	AS	ь гл	s Glu	340	ьеи	Arg	PIO	ser	345	ьец	ьeu	ser	ser	350	Arg	PIO
241 243	c o	~ T ^	υ Mb∞		א ז ה	λ×α	7 ~~	T Ou		C1,,	mh.∽	T1.	Dho		C1**	Cor
243	36	т ге	u Thr 355	-	мта	ALG	AIG	360	Val	GIU	1111	TTE	365	пеп	дтў	ser
244	λ ~	a Dr	o Trp		Dro	Clv	Thr		λνα	λνα	Lou	Dro	-	Lou	Dro	Cln
247	ΥT	37	-	Mec	PIO	СТУ	375	PIO	AIY	ATY.	nea	380	AIY	пец	PIO	GIII
247	λγ		o r Trp	Gln	MΔ+	λνα		T.011	Dho	Τ.Δ11	Glu		T.011	G1 v	Aen	Wie
250	38		ıııp	GIII	Mec	390	rio	пса	riic	пси	395	пси	пси	GTÄ	RSII	400
252			n Cys	Dro	ሞላንዮ		Val	Τ.Δ11	Τ.Δ11	T.v.c		Hic	Cve	Dro	Τ.Δ11	
253	A.	α	n Cys	110	405	GLY	VUL	Dea	пси	410	T 11T	1115	Cys	110	415	n. y
255	۵1	a Al	a Val	Thr		Δla	Δla	Glv	Val		Δla	Ara	Glu	T.v.c		Gln
256	711	u ni	u vui	420	110	mu	IIIu	GT J	425	CYD	MIG	1119	Olu	430	110	Q111
258	G1	v Se	r Val		Δla	Pro	Glu	Glu		Asp	Thr	Asp	Pro		Arσ	T _i en
259	01	1 00	435			110	OIU	440	014	op	1111	1100	445		9	204
261	Va	1 G1	n Leu		Arσ	Gln	His		Ser	Pro	Trp	Gln		Тvr	Glv	Phe
262	, ~	45		Lou	9	0111	455	501	501	110		460	, 42	-1-		1110
264	Va		g Ala	Cvs	Leu	Ara		Leu	Val	Pro	Pro		Leu	Trp	Glv	Ser
265	46		J	010		470	9		, 42		475	0-1	~	F		480
267			s Asn	Glu	Ara		Phe	Leu	Ara	Asn		Lvs	Lvs	Phe	Ile	
268		J			485	5			5	490		-1-	-1-		495	
270	Le	u Gl	y Lys	His		Lvs	Leu	Ser	Leu		Glu	Leu	Thr	Trp	•	Met.
271			1 -1-	500		-1 -			505					510	-1-	
273	Se	r Va	l Arg		Cys	Ala	Trp	Leu		Ara	Ser	Pro	Glv		Glv	Cys
274			515	- 1	4 -		1	520	ر -	ر -			525		- 4	4 -
276	Va	l Pr	o Ala	Ala	Glu	His	Arq		Arq	Glu	Glu	Ile		Ala	Lys	Phe
277		53					535		,			540			-	
279	Le		s Trp	Leu	Met	Ser		Tyr	Val	Val	Glu		Leu	Arg	Ser	Phe
			_											_		

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200	515					EEO										E C O
280	545		17-1	mh w	C 1	550	mhm	Dho	01 m	T	555	7 ~~	T 0.11	Dha	Dha	560
282	Pne	туг	val	THE		THE	THE	Pne	GIII	_	ASII	Arg	Leu	Pne	Phe	TAL
283	7 20 00	T	Com	77a 1	565	0	T	T 0.11	@1 m	570	T1.	01	т1.	7 ~~	575	774.0
285	Arg	ьуѕ	ser		тгр	Ser	гуѕ	Leu		ser	TTE	GTY	iie	_	Gln	HIS
286	T 0	T	3	580	<u>م</u> ا	T	3	a 1	585	C	701	3 T	41	590	3	01
288	Leu	ьys	-	val	GIN	Leu	Arg		Leu	ser	GIU	Ala		vaı	Arg	GIN
289	77.5 -	3	595		3	D.		600	.	m1	a	3	605	.	D 1.	-1
291	HIS	_	GIU	Ата	Arg	Pro		Leu	ьeu	Tnr	ser	_	ьeu	Arg	Phe	тте
292	D	610		•	a 1	-	615		-1 .	**- 1		620			1	**- 1
294		-	Pro	Asp	GTÀ		Arg	Pro	тте	vaı		мет	Asp	Tyr	Val	
295	625		_	-n 1	-1	630		a 1			635	a 1		_	1	640
297	GLY	Ala	Arg			Arg	Arg	GIU	Lys	_	Ala	Glu	Arg	Leu	Thr	ser
298	_	1	_		645	-1	a		_	650	_	a 1			655	
300	Arg	Val	Lys		Leu	Phe	Ser	Val		Asn	Tyr	GIu	Arg		Arg	Arg
301	_		_	660	~ 3		_		665		_	_	_	670	· !	_
303	Pro	GLY		Leu	GLY	Ala	Ser		Leu	GLY	Leu	Asp	_	He	His	Arg
304		_	675	_,	1	>	_	680		_		~ 1	685	_	_	_
306	Ala	_	Arg	Thr	Phe	Val		Arg	Val	Arg	Ala		Asp	Pro	Pro	Pro
307		690	_			_	695	_		_,		700		_		
309		Leu	Tyr	Phe	Val	_	Va⊥	Asp	Val	Thr		Ala	Tyr	Asp	Thr	
310	705		_	_	_	710				- 1	715	_ 1	- 1	_	_	720
312	Pro	Gln	Asp	Arg										_	Pro	GIn
313			_							_					735	1
315	Asn	Thr	Tyr	_	Val	Arg	Arg	Tyr		Va⊥	Val	GIn	Lys		Ala	His
316		1	•	740	_		_,	_	745	•		_		750	1	_
318	GLy	His		Arg	Lys	Ala	Phe	_	Ser	H1S	Val	Ser		Leu	Thr	Asp
319	_		755	_		_		760			1	_	765		_1	_
321	Leu		Pro	Tyr	Met	Arg		Phe	Val	Ala	His		Gin	Glu	Thr	Ser
322	_	770	_	_		1	775	_1	~ 3	~ 3	-	780	-	_	_	~ 7
324		Leu	Arg	Asp	Ala		val	TTE	GIu	GIn		ser	ser	ьeu	Asn	
325	785	_	_	a 1	_	790	_		-1	-	795	-1		~	'	800
327	Ala	ser	Ser	GTĀ		Pne	Asp	val	Pne		Arg	Pne	мет	Cys	His	HIS
328	. 1	1	_	-1	805	a 1	_	_		810	a 1	a .	a 3	a 1	815	_
330	Ala	vaı	Arg		Arg	GIY	гàг	ser	_	val	GIN	Cys	GIn	_	Ile	Pro
331	01	01	a	820	. .	a	m1	.	825	~	G	T	0	830	a 1	3
333	GIN	GTA			ьеи	Ser	Thr		Leu	Cys	ser	Leu	_	Tyr	Gly	Asp
334	M - L	a 1	835	· •	T	D1	3 J _	840	-1 -	3	3	3	845	T	T	T
336	мет		Asn	гÀг	Leu	Рле		GTÄ	TTE	Arg	Arg	_	GLY	ьeu	Leu	Leu
337	3	850	77- 7	3	3	Dh.	855	T	77- 1	mb ss	D	860	T	mh as	77.2	33-
339	_	Leu	val	Asp	ASP		Leu	ьeu	vaı	Thr		HIS	Leu	Thr	His	
340	865	ml	D1	.		870	.	77. 1		a 1	875	D	a 1		a 1	880
342	Lys	Tnr	Pne	Leu	_	Thr	ьеи	val	Arg	_	vaı	Pro	GIU	Tyr	Gly	Cys
343	77. 7	77-7	3	T	885	T	m1	77- 1	77- 7	890	Dh.	D •	37- J	a1	895	a1
345	val	val	ASN		arg	ьys	Tnr	val		ASN	rue	PTO	val		Asp	GIU
346	አገ =	T		900	ጠ ኤ	37 -	րե -	37± 7	905	No.4	D	ж 1 –	TT 4 =	910	Т	nh -
348	ATG	ьeu	_	ĢΤĀ	rnr	ATG	ьие		GTU	мет	LLO	нтα		стλ	Leu	rne
349	D	Птага	915	Ø1	T	T 4:-	T ~	920	m1	7	m k	T 4	925	1707	01 -	C ~ ~
351	LI.O	_	Cys	СΤΆ	ьeu	ьeu		ASP	III	Arg	TUL		GIU	۷dl	Gln	ser
352		930					935					940				

RAW SEQUENCE LISTING DATE: 02/14/2002 PATENT APPLICATION: US/09/424,686 TIME: 15:18:45

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Output Set: N:\CRF3\02142002\I424686.raw

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360 361	Val L	eu Arg	Leu 980	Lys	Cys	His	Ser	Leu 985	Phe	Leu	Asp	Leu	Gln 990	Val	Asn
363 364	Ser L	eu Gln 995	Thr	Val	Cys	Thr	Asn 1000		Tyr	Lys	Ile	Leu 100		Leu	Gln
366 367		yr Arg 010	Phe	His	Ala	-	Val	Leu	Gln	Leu	Pro 1020		His	Gln	Gln
369 370	Val T: 1025	rp Lys	Asn	Pro		Phe	Phe	Leu	Arg		Ile 5		Asp	Thr	Ala 1040
372 373	Ser L	eu Cys	Tyr	Ser 1045		Leu	Lys	Ala	Lys 1050		Ala	Gly	Met	Ser 1055	
375 376	Gly A	la Lys	Gly 1060		Ala	Gly	Pro		Pro	Ser	Glu	Ala	Val 1070		Trp
378 379	Leu C	ys His 107		Ala	Phe	Leu		Lys)	Leu	Thr	Arg	His 1085	_	Val	Thr
381 382	_	al Pro 090	Leu	Leu	Gly		Leu	_	Thr	Ala	Gln 1100		Gln	Leu	Ser
384 385	Arg L: 1105	ys Leu	Pro	Gly	Thr 1110		Leu	Thr	Ala	Leu 1115		Ala	Ala	Ala	Asn 1120
387 388	Pro A	la Leu	Pro	Ser 1125	_	Phe	Lys	Thr	Ile 1130		Asp				

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/424,686

DATE: 02/14/2002

TIME: 15:18:46

Input Set : A:\pto.vsk.txt

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